Some Aspects of the Maybrick Case.

See page 306.

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EDITED BY DR. ANDREW WILSON, F.R.S.E. &C.

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(Signed) GEORGE HENTY, M.D.

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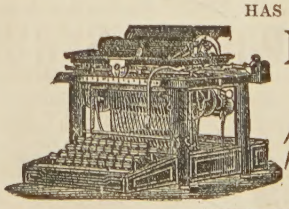

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• HEALTH •

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &c.

LONDON: *FRIDAY, AUGUST* 16, 1889.

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Notes by the Way

BY THE EDITOR.

"Health is the foundation of all our physical happiness."—*Herder.*

SELDOM, if ever, has any verdict in a criminal trial given such universal dissatisfaction as did that returned last week at Liverpool in the Maybrick poisoning case. Since the day on which the jury pronounced Mrs. Maybrick, in their opinion, to be a guilty woman, the population at large has risen up against what is believed to be an unjust conclusion—unjust, chiefly, because the jury have given vent to a deliberate and definite opinion in a case the dubious nature of which seemed to render any such finding impossible. The *vox populi* in this case has not spoken without cause. Any one who followed the evidence closely, and who read Mr. Justice Stephens' summing up, could not but draw two conclusions therefrom. First of all, it was clear that in the case of the deceased —proved to have been in the habit of tampering with arsenic—the benefit of the doubt, which arose on this head, should have been given to the prisoner—it was given to the prosecution instead. Secondly, I deem it equally clear that Mrs. Maybrick is being punished for a crime against morality, with which, as she stood in the dock, she was not, nor could there be, charged at all.

THE judge's summing up in its latter sentences clearly held up the unhappy woman to the scorn of the world. I only follow other opinions when I say that his remarks here were extra-judical and unwise. Is it, after all, only a new illustration of the remark that once a woman is down (in a moral sense), every one claims the right to kick her. Had it been a man who stood in the dock at Liverpool, I make bold to say we should not have heard a tithe of the talk about unfaithfulness and immorality with which we have been drenched on this occasion. I do not plead for immorality, or defend Mrs. Maybrick's lapse. I merely suggest that our religion, with charity for its theoretical pivot, should have produced better and nobler things in the way of criticism both from bench and press than we have all heard and read during these last few days.

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THE defence both as regards its medical and lay witnesses was a strong one. Among the very pretty incongruities offered by the prosecution I have been able to discover none more telling than that summarized by the *Chemist and Druggist*, in respect of the multifarious substances with which Mr. Maybrick was dosed by his medical men. He was ailing for, say, thirteen days. In the course of that time he had adminstered to him by one doctor and another the following drugs:—Morphia suppositories; ipecacuanha wine; papain and iridin solution; cascara sagrada; nitro-hydrochloric acid; bromide of potassium; antipyrin; tincture of jaborandi; bismuth; sulphonal; cocaine; tincture of nux vomica; Fowler's solution (of arsenic); Plummer's pill; dilute hydrocyanic acid; tincture of henbane; nitroglycerine; dilute phosphoric acid; solution of chlorine, Sanitas, glycerine, and Condy's fluid, as mouth washes. After this statement, perhaps Mr. Justice Stephens' caustic remarks on the uncertainty of medicine, viewed as a science, may appear more than usually applicable. If the medical treatment was "a jumble of irrational empiricism," it becomes a grave question indeed how far it was answerable, in a negative sense, for the fatal result. My contemporary scores another forcible point when it reminds us that between the 7th May, when arsenical poisoning was suspected, and the 11th May, when Mr. Maybrick died, no attempt was made to treat him for poison.

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As regards the *post-mortem* evidence, that may be dismissed from the case, because the testimony given by the experts for the defence was just as weighty as was that for the prosecution, and was, in some respects,

CANCEROUS DISEASES.

TESTIMONIALS.

The following is from Dr. John Sheerer, St. Albans, Sept. 5th, 1888.

MR. JOHN M. YOUNG, *Manager Missisquoi Mineral Springs.*

DEAR SIR,—My mother, Mrs. Susan Sheerer, of Virgil, Cortland County, N.Y., was pronounced by Dr. Brunson, of said town, to have had a cancer in her breast in 1866. She used two cases of Missisquoi Water, and was cured. She is now eighty-two years old, and in splendid health. Yours truly,

JOHN SHEERER.

MISSISQUOI SPRINGS.

[An Extract from "The Monthly Homœopathic Review," May 1st, 1870.]

By Dr. TUTHILL MASSY.

The Missisquoi Springs of Franklin, County Vermont, are at present rather frequently prescribed in England for diseases where the knife was the severe medicine of other days: I therefore deem it my duty to lay before your readers the experience which I have gathered relative to these Springs.

* * * * * * * *

The Spring A, Missisquoi Springs, is the one most generally exported, and which I have frequently prescribed. It gave great comfort to a lady who was suffered from a large open cancer in the right breast; cleansed the surface, relieved the pain, induced sleep, and diminished the tendency to bleeding, when applied externally, like simple water dressing, and taken in half-tumbler doses twice a day.

The benefits of the Spring A were very remarkable in a lady burdened with an ovarian tumour containing much water, with considerable abdominal tenderness. A few bottles always reduced her great size, and relieved her mind from the dread of an operation which was once proposed.

PAMPHLET on application to the Sole Importers—

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stronger. The long and the short of it is, that the Maybrick case was one manifestly full of doubts, and the prisoner should have had the benefit of them. Had Mrs. Maybrick been tried in Scotland, the verdict would have been "Not Proven." The sooner English juries are given the right to number this verdict amongst their legal conclusions the better will it be for justice all round. We also want a Court of Criminal Appeal, and I am glad to notice a movement on foot towards this end. That Mrs. Maybrick will not suffer the dread penalty of the law is certain; that she should receive a free pardon simply because her crime has not been proved, is a demand the reasonable nature of which I trust Mr. Matthews will speedily be brought to discern.

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SIR MORELL MACKENZIE, in writing of stimulants and the voice, says, "Tobacco, alcohol, and fiery condiments of all kinds are best avoided by those who have to speak much, or at least they should be used in strict moderation. I feel bound to warn speakers addicted to the 'herb nicotian' against cigarettes. Like tippling, the effect of cigarette-smoking is cumulative, and the slight but constant absorption of tobacco juice and smoke makes the practice far more noxious, in the long-run, than any other form of smoking. Our forefathers, who used regularly to end their evenings under the table, seem to have suffered little of the well-known effects of alcohol on the nerves; while the modern tippler, who is never intoxicated, is a being whose whole nervous system may be said to be in a state of chronic inflammation. In like manner cigarette-smokers (those, at least, who inhale the smoke, and do not merely puff it 'from the lips outward,' as Carlyle would say) are often in a state of chronic narcotic poisoning. The old jest about the slowness of the poison may seem applicable here; but, though the process may be slow, there can be little doubt that it is sure. Even if it does not kill the body, it too often kills or greatly impairs the victim's working efficiency and usefulness in life.

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THE local effects of cigarettes in the mouth must also be taken into account by those whose work lies in the direction of public speech. The white spots on the tongue and insides of the cheeks, known as 'smoker's patches,' are believed by some doctors with special experience to be more common in devotees of the cigarette than in other smokers. This unhealthy condition of the mouth may not only make speaking troublesome, or even painful, but it is now proved to be a predisposing cause of cancer. All fiery or pungent foods, condiments, or drinks tend to cause congestion of the throat; and, if this condition becomes chronic, it may lead to impairment, if not complete loss, of voice. The supposed miraculous virtues of the mysterious possets and draughts on which some orators pin their faith exists mainly in the imagination of those who use them: at best, they do nothing more than lubricate the joints of the vocal machine, so as to make it work more smoothly."

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DR. JOHN I. BRINKERHOFF, of Auburn, N. Y., writes: "I notice a serious request for cure for snoring, and a facetious reply to 'bite the nose gently but firmly.' Still, there is a cure for snoring, used by my comrades in the army, viz., tie a band or handkerchief over the mouth if the subject can breathe easily through the nose. We found this to be very effective."

Original Essays

"Life is not to live, but to be well."—*Martial.*

SOME ASPECTS OF THE MAYBRICK CASE.

BY C. MARSHALL.

THE verdict of the jury in this sensational case has been received with widespread dissatisfaction not alone by the public, but by legal and medical authorities of the highest standing in their respective professions. For this dissatisfaction there is good cause and reason.

First of all, it was admitted that the deceased was in the habit of "dosing" himself with arsenic and arsenical compounds up to the very day he was taken ill, and perhaps later. It is perfectly well known that arsenic, being a mineral poison, is practically indestructible in the human body, and is thus unlike vegetable poisons, which decompose rapidly. Arsenic was found in the man's body, but not to the extent of 2·5 grains. This would be a fatal dose to any ordinary person, but most assuredly *not* a fatal dose to a man accustomed to taking the poison as Maybrick was. In confirmation of this, it is only necessary to point out that in the case of the Styrian arsenic eaters in Southern Austria (an arsenic-producing district) it was long since (in 1851) conclusively proved by medical men of the highest repute, that the people were in the habit of eating arsenic in enormous quantities, as they do still. One man was in the constant habit of taking one day five and a half grains, and the next day four and a half grains of arsenic as a dose; and this he continued sometimes twice a week. Strange, however, he appeared to be none the worse for it. In the face of these facts, it seems highly probable, nay, conclusive, that Dr. Macnamara's confident opinion and view that Mr. Maybrick did not die from arsenic poisoning at all, is the correct one.

The prosecution contended that all arsenic administered by Mr. Maybrick to himself must have necessarily been eliminated from his body long before his death. Nothing of the kind is probable. Arsenic was found by the late Dr. Herapath, of Bristol, in the bodies of several young people *eight* years after their death; in such large quantities, too, that a jury had no difficulty in coming to a conclusion, even after that lapse of time, that the children had died from arsenic poison administered to them by some person or persons unknown.

Does not this series of cases alone show that the doses administered by Mr. Maybrick to himself remained to a certain extent in his system, and that what was found in his body was the accumulated inactive residue of these doses, extending over years and years, which had continued in an indestructible state in his body? Further, no arsenic was found in the stomach or adjacent tissues. This negatives the idea of the deceased having partaken of, or having been given, arsenic shortly before his death —as contended by the prosecution.

In the case of a gentleman farmer's death some years since, and upon his interment in the same tomb in which his father had been buried thirty-five years before, particles of a bright metallic substance were found among his father's bones; these particles were collected together, and proved to be oxide of mercury, which had therefore, for the third of a century, remained undestroyed and indestructible in this man's body, who, while living,

had been in the habit of dosing himself with powerful medicines from time to time.

The arsenic-eaters of Styria use the poison in order to make themselves plump and "long-winded," and to give themselves strength to bear long journeys through the country, and also to improve their complexions. Men and women, girls and boys, are slaves to the habit, and they are apparently none the worse for it, being both healthy and strong; and upon their deaths, it is said, owing to the antiseptic properties of the arsenic, their bodies are preserved to such an extent that ten or twelve years after interment the features are easily recognizable. "Familiarity breeds contempt," and the more arsenic one takes, and the longer one takes it, the greater is the quantity which can be received with impunity. As already stated, the Austrian arsenic-eaters consume habitually four or five grains a day, two or three times a week.

Now, it seems very unlikely indeed that a fatal dose to an ordinary individual would be productive of anything more than inconvenience to a person who constantly used arsenic as Mr. Maybrick did. Certain it is that the habit of taking arsenic cannot be broken off once it becomes a habit. A man may go on for years taking the poison and feel no ill-effects; but the moment the stimulant is withdrawn from him and he cannot use it, there come the heart-gnawing depression and utter exhaustion that culminate in death.

It would be very strange, but quite possible, that, instead of being killed through arsenical poisoning, Mr. Maybrick died because it was *not* given to him. The accustomed powerful stimulant was absent. Weakened and exhausted as he was by sickness, he had no power to pull through his illness. It is no wonder that the man should have asked his wife to give him his "white powders" in his food, as she said he did. He felt his weakness, and he knew (though she did not) they contained what would give him strength and lift him out of his depression. Temporary though the relief might be, that awful sinking feeling of prostration and depression common to dipsomaniacs and opium-eaters, &c., when deprived of their usual drink or drug, would be so far avoided.

But it by no means follows that because arsenic is found in a man's body it must of necessity have got there either criminally or accidentally. Lead is present in the food we eat and in the water we drink; copper is present in a variety of potted and highly coloured foods and preserved vegetables. Arsenic is present in nature to an extent undreamt of by ordinary persons. A celebrated French chemist in a notorious arsenic poisoning case in France pledged his professional reputation that he could extract a fatal dose of arsenic from the legs of the Presidential Chair, or even the legs of the President himself, who was trying the accused. Muriatic acid and soda are used in making bread. This muriatic acid often contains large quantities of arsenic, particularly when made, as it sometimes is, from Irish or Cornish pyrites. Dr. Scanlan, in his evidence before the Parliamentary Committee for Poisons, said he had found large quantities of arsenic in muriatic acid used in bread-making. Then again, bread has before this become impregnated with arsenic by merely lying near freshly painted green shelves when taken out of the oven to cool. A number of children died some years ago by merely using dusting powder, which, it was shown, was largely adulterated with arsenic. People have been rendered ill by sleeping in a room the wall-papers of which contained arsenic used in their manufacture. There is arsenic in the soil; and in one case a prisoner was acquitted of murder upon the ingenious suggestion of his Counsel that the arsenic in the deceased man's body got there through a crack in the coffin from the surrounding earth.

As to arsenic having been found in the remains of the farinaceous food partaken of by Mr. Maybrick at his office, is it not possible that he himself put it there and mixed it with his food? But apart from that, the glazing of enamelled pans was shown by Dr. Paul to contain arsenic. As to arsenic being found in the medicine bottle, is it absolutely impossible for a chemist, or his assistant, to make an error when compounding a prescription hurriedly? A bottle of glycerine was found with arsenic in it—surely this was for a cosmetic purpose, just as was the fly-paper solution. The glycerine, at least, could not have been intended for her husband to drink. The saturated pocket-handkerchief and the arsenic found on the dressing-gown are all satisfactorily accounted for if the drug was intended to be used for a cosmetic. That arsenic *is* used, and commonly used, for such a purpose, both in England, France, and Germany, is beyond all manner of doubt. Mrs. Maybrick made no concealment of these fly-papers. She was quite open and candid concerning them and their use. It seems a horrible thing to say that because she may have obtained them for an innocent purpose she has been convicted and sentenced to be hung as her husband's murderer; and this, too, in the face of the positive and emphatic opinion of medical experts of the highest repute and ability that her husband did not die of arsenic-poisoning at all.

It is not easy to understand how, unless she was innocent of the awful crime charged to her, Mrs. Maybrick made the "grave" statement she did. Her husband had *not* partaken of the meat juice at all in which the "white powder" was put; so that this particular bottle of meat juice had nothing whatever to do with his death—he got none of it.

To sum up; it seems clear that Maybrick was in the habit of taking arsenic very constantly as a stimulant, "pick me up," or anything else that it may be called. He had been dosing himself with poisonous medicines for years, and these medicines contained arsenic. He caught cold and got a heavy wetting, and felt ill. For a few days he was able to get about and take his accustomed stimulant. Then, getting worse, he took to his bed. The doctors were called in, and the man was placed under the charge of nurses. He could obtain no more arsenic now, and therefore he asked his wife for his "white powder," hoping to gain relief from it. He does *not* get it. He gradually gets weaker and weaker, and ultimately dies from exhaustion, following gastro-enteritis. His wife is suspected of having poisoned him. There is a *post-mortem;* the indestructible remains of years of arsenic-dosing are found, not in his stomach, but in other organs; and because this is so, and because she has carried on an intrigue with another man, Florence Maybrick is condemned to suffer a felon's fate.

Surely no! Surely the voice of the English people must be heard, and the question of Florence Maybrick's guilt must be established beyond any doubt whatsoever before she is sent to suffer the last dread penalty of the law at the hands of the common hangman. It is not a question of mercy now. It is a question of justice being done to this unfortunate woman, who has suffered untold agonies when in the dock of that court from which a jury of her countryman cast her out (upon what good grounds or upon what legal evidence it is difficult to perceive) with the brand of "guilty" stamped on her for evermore.

The woman must be innocent or guilty. There can be no "recommendation to mercy" or excuses made for the commission of such a crime as this *if committed*. A reprieve, or the commutation of an unjust sentence following an illegal verdict, is not sufficient. Mrs. Maybrick should be hung if guilty of her husband's death. If she is not proved guilty of it, she ought to be set free. The verdict of the jury, so far from establishing her guilt, is valueless, and must be ignored.

ALCOHOL, says Professor Atwater, in the *Century* for May, like bread, is manufactured artificially from a natural product. In each case fermentation, a natural process, is made use of. But while bread is known only as a product of manufacture, alcohol appears to be very widely distributed in nature, though in extremely minute quantities. Nor is this at all surprising. If grapes or apples, or their juice, be exposed to the air, fermentation sets in, and the sugar and other carbo-hydrates are changed to alcohol. The ferments which cause the change are afloat in the air all about, and might not unnaturally attack similar compounds in other vegetable substances. The moral argument against alcohol seems to me invincible. Is it not certainly strong enough when the facts are adhered to, without the exaggerations into which earnest reformers, in the intensity of their convictions, are sometimes led?

MESSRS. QUIBELL AND THE JOHNSTOWN DISASTER.—When the appalling calamity at Johnstown took place, our townsmen, Messrs. Quibell Brothers, very promptly despatched a thousand gallons of their disinfectant as a free contribution, and by the generous co-operation of the Great Northern Railway Company, the Allan Line of steamers to New York, and the Pennsylvania Line of railway to Johnstown, the consignment was conveyed direct without any charges. The following letter of acknowledgment has just been received:—"Commonwealth of Pennsylvania, State Board of Health, Johnstown, Pa., July 6th, 1889. Messrs. Quibell Brothers, Newark, England. Gentlemen,—In the name of the burgesses and citizens of this stricken town, and of the State Board of Health of the Commonwealth of Pennsylvania, allow me to thank you most sincerely for your very acceptable gift. No one firm in this country has made so liberal a contribution in either money or material. As an expression of sympathy from brethren in a distant land its value is greatly enhanced. It has arrived at a fortunate time. After a month's incessant labour, often by night as well as by day, resting only on the Lord's Day, we have but just succeeded in clearing the streets of that portion of the town which was not swept away, of the tangled masses of *débris*, consisting of houses, passenger coaches, freight cars, locomotives, furniture, trees, bridges, corpses, and carcasses, which encumbered them up to the very roofs of the houses, and once more converting them into thoroughfares. We shall be able therefore to use a street sprinkler to great advantage, and your disinfectant will come into play very acceptably in that way. Fortunately, we have been able up to the present time to maintain a very fair condition of public health, but the fervid heats are yet to come, and it will require unremitting care to prevent some serious outbreak of disease. Should we succeed, you will have the satisfaction of knowing that you have contributed materially to this happy result. Allow me to add my personal thanks for your generosity and for your kindly expressed sympathy.—I have the honour to be, dear Sirs, Your obedient servant, BENJAMIN LEE, Secretary, State Board of Health."

Personal Health

"Be timely wise;
With health all taste of pleasure flies."—*Gay.*

GLYCERINE SUPPOSITORIES IN CONSTIPATION.

DR. JULIUS ALTHAUS (*British Medical Journal*) recommends glycerine as an application in chronic constipation, an evacuation generally taking place within a few minutes.

Dr. Carl Ullman (*Centralblatt für Therap.*) describes an exhaustive research into the action of glycerine as a purgative. Mixed with water, glycerine enemata were frequently attended with failure in chronic constipation. When pure glycerine was administered, and the cases selected were those in which constipation had existed for at least two or three days, the maximum duration being twelve days, 226 applications were altogether given and the results noted separately. Painful sensations during stool were complained of by only five patients, three of whom were suffering from internal inflammation.

Glycerine is serviceable where for any reason a rapid evacuation from the lower part of the bowel is indicated.

The action of glycerine as a purgative is due to the hydroscopic property it possesses. Water is drawn from the mucous membrane of the rectum, circulation is promoted, the lower part of the intestine is moved, peristalsis or intestinal movement is set up, and action ensues generally ten or fifteen minutes after the introduction of the suppository. The larger the accumulation of matter the more effectual is the remedy. Glycerine suppositories are a general remedy for constipation in the children's hospitals. The best suppositories are composed of hollow cones of cocoa butter and Lanoline filled with pure glycerine, whereby all smarting frequently caused where the membrane is very sensitive, is obviated by the emollient property of the combined fats, and the complete action of the glycerine is ensured by the absence of gelatine or other deterrent excipient.

Constipation may be attributed to three causes, *mechanical obstruction, deficient peristaltic action, deficiency of secretion*, particularly of bile. The first may arise from a number of causes, the habitual neglect of the act of defecation, either from want of time, the continued use of astringent articles of diet, or of tea and coffee in excess, sedentary habits, especially connected with mental work. A number of persons are predisposed to constipation, particularly those of a lethargic temperament, where the bowels are habitually confined. A glycerine suppository applied regularly each morning will promote action at a specified time. Sometimes the excreta accumulate to a large amount in hardened scybala, and in such cases the glycerine appears to act with most marked benefit.

Should the constipation be due to lack of bile secretion, the Tabloids of Cascara, Euonymin, and Nux Vomica are indicated in addition to the continued use of the glycerine suppositories. The suppositories prevent the irritating passage of hardened matter, consequent irritation, hæmorrhage and piles. Simple enemata were originally recommended. These were not always convenient to administer, and the morning injection of soap and water was neglected owing to want of time and other considerations. The advantages of the glycerine suppositories are therefore summed up as follows:—

1. They are, owing to their conical form, easily administered.

2. They are of uniform manufacture, therefore reliable.
3. They are portable.

The only suppositories fulfilling all the conditions just enumerated are those prepared by Burroughs, Wellcome & Co., of London.

SAFE TREATMENT OF SKIN TROUBLES.

Probably half, if not more, of the people in Great Britain are suffering with some trouble of the skin. The popular supposition is that a disease of the skin is of no moment, aside from the direct personal discomfort involved. Such an idea is erroneous. There is a fine rash upon the body, as in lichen, which may end in emaciation and death. A little sore upon the lip may end in epithelioma, the poison from which may be absorbed into the glands, irritating them and rendering recovery impossible. An irritated mole may cause black sarcomatous tumours to appear throughout the body, inevitably producing death. Prolonged irritation of the skin is more or less likely to develop malignant affections. A bad condition of the skin may mean a bad state of health. In addition to all this, what detracts more from the personal appearance than a rash on the face?

Of all skin-troubles, eczema causes one-half. A few words on the treatment of it may, therefore, first have attention. Eczema is a catarrhal state of the skin accompanied with intense itching. To relieve the itching and cure the disease, Vinolia stands first. But it will not cure all cases, though efficacious in the majority. It is perfectly safe, and when it will not do the work an eminent dermatologist should be consulted.

After eczema comes acne, and this is pre-eminently the disease of the face. It occurs as little spots, sometimes with "black-heads" and sometimes as rosy-red pimples. Sometimes they suppurate and leave scars quite as bad as those from small-pox. Acne is always curable, but is seldom cured. First of all, the contents of the uninflamed blackheads are to be squeezed out. The red pimples may be pricked, and thus brought to a head in a few hours and squeezed. Vinolia, in an ounce of which half a drachm of calomel has been rubbed thoroughly, should be applied three times daily.

The above treatment is applicable to the next important in the series of skin-troubles, viz., syphiloderma, and also to ulcers, which follow next in order. A most useful prescription is the following:—℞ Sulphuris precipitati, half a drachm; hydrargyri ammoniati, fifteen grains; hydrargyri sulphureti nigri, ten grains. Mix, and add: creosote, ten minims; adipis, six drachms. Mix, to make an ointment. Label: "For external use only."

This seldom occasions any undue irritation, yet it has produced a pustular eruption with a rapid and complete cure. It is to be well rubbed into the affected scalp twice a day with a short stiff brush.

"Why don't you sue the company for damages?" asked a gentleman of an Irishman who had been recently injured in a railroad accident. "Damages, indade!" was the reply. "An' hain't I had enough of thim entoirely? Its the repairs I'd be afther now."

Special Notice.—The best stimulant for dietetic and other purposes is the "Skerryvore" (Registered) Blend of Fine Matured Scotch Whiskies, certified of the utmost purity by Mr. E. G. Clayton, F.C.S., Member of the Society of Public Analysts. Sold only by John Twatt, 36, Argyle-place, Edinburgh. Price 20s. per gallon, bottles and cases included.—[Advt.]

ST. RAPHAEL.

A correspondent of the *Lancet* says that as a health resort and winter residence this little known but charmingly situated town, with its suburb of Valescure, is rapidly coming to the fore, not only on account of its climate and scenery, but also because of its nearness to England. It is situated on the eastern side of the Bay of St. Raphael in the Mediterranean, it is not very far from Hyères, and is only forty-three minutes' ride by rail from Cannes. It is the second nearest health resort to England, Hyères being the nearest. St. Raphael, being on the coast, has a tonic, stimulating, and bracing climate; whilst Valescure, being about two miles inland, and situated on the southern slope of a hill and in the midst of a pine forest, has a warmer and more sedative climate.

It is also exceedingly well sheltered from the wind in every direction. St. Raphael and Valescure are eminently suited as a health resort and place of residence for those whose health cannot stand the more bracing and exciting influences of the busy and fashionable resorts of Cannes, Mentone, Nice, &c. Also, on the score of expense, St. Raphael bears the palm for cheapness. It is essentially a rising place, as it only began to come into note about eight years ago; but since that time more than 300 villas have been built, and are occupied during the winter season chiefly by the English visitors and residents. As a summer resort it is largely frequented by the French, who go there to escape from the heat of the interior, to inhale the invigorating sea breezes, which keep the town cool even on the hottest day; and also for the sea-bathing, which is very good.

St. Raphael and Valescure are protected from the wind on the north by the Alps; on the east by the Esterel Mountains, which separate them from Cannes; and on the west by the Montagnes des Maures, which separate them from Hyères. All these mountains are covered by thick pine forests. The only wind which reaches the town very much is the north-west wind, or Mistral, as it is called; and this, although much feared, does not blow nearly so often as is commonly supposed, and it is hardly felt at all at Valescure. The alteration in temperature before and after sunset is not nearly so marked as at the warmer and more sheltered health resorts; also the mist that rises after sunset at Cannes, &c., is entirely absent, the air being as clear after as before sunset. The soil is chiefly gravel and sandstone, and the ground dries very quickly after rain.

The average number of rainy days in the season is not more than forty, and on other days the sky is almost, if not absolutely, cloudless. Living is cheap, and good villas, either furnished or unfurnished, can be obtained at moderate rentals. There is an English church, at which daily services are held, and there is also a small English colony, but this is increasing in size every year. Roses are in full bloom all the winter; twenty varieties of cistus and narcissus and twenty-five varieties of orchids are to be found growing; also the pine, palm, mimosa, eucalyptus, orange, pomegranate, myrtle, olive, fig, honeysuckle, jasmine, acacia, cactus, &c., grow there in profusion. There are nice walks, either along the shore or up the valley of the Garonne, into the Esterel Mountains; also excursions to places of interest round about.

Chemical Analysis.—Dr. Drinkwater, Lecturer on Chemistry in the Edinburgh Medical School, undertakes the Analysis of Water, Foods, Wall-Papers, and of all other products and articles connected with Household Health and Commercial Interests. Terms on application to Dr. Drinkwater, Chemical Laboratory, 41, Chambers-street, Edinburgh.

The Family Circle

"The child is father of the man."—*Wordsworth.*
"In bringing up a child, think of its old age."—*Joubert.*

MILK AND SOME OF ITS PRODUCTS.

By JOHN CROWELL, M.D.

MILK is the most popular, the most simple, as well as the most nutritious of any of the articles of food used by the great mass of human kind. It is easily attainable, and it contains the necessary elements for sustaining life. This is especially true of cow's milk, containing carbon, oxygen, nitrogen, and hydrogen, combined in fairly equal proportions in the form chiefly of water, casein, albumen, fat (or butter), lactose, and numerous salts. Having these chemical qualities, it is possible to sustain life for a long time upon an exclusively milk diet. This, however, soon becomes wearisome, and gastro-intestinal derangements are apt to result after a few weeks. In this exclusive use there often follows a disagreeable nausea, and the smell and taste of the milk causes great loathing.

This disagreement is caused from the fact that there is too much nitrogenous matter in proportion to the carbo-hydrates, and in order to obtain sufficient carbo-hydrates, too much protein is taken, which greatly interferes with the process of digestion. But, although an exclusive milk diet seems essential in the first years of human life, it is not sufficient for adults. It is usually omitted from the dietary of athletes in process of training, and in many persons it causes derangement in digestion, resulting in constipation and other disagreeable conditions.

On the other hand, it is often used with the most satisfactory results in cases where no other form of diet can be tolerated, and in almost any febrile condition its use is of the first importance, especially when the nitrogenous metabolism is great. The time required for the complete digestion of milk, in its normal process, is three hours. Oftentimes the milk of the cow disagrees with the stomach, and, especially with infants, cannot be tolerated. This is owing to a variety of causes, as contamination by disease-germs from the cow, poisonous foods eaten by the cow, extraneous disease-germs, pollution of milk by the dealer, souring or decomposition of the coagula formed in the stomach, when the gastric juice fails to disintegrate the casein within a reasonable time, owing to the weak state of that organ.

Whenever, therefore, a child is unable to retain the milk that is ordinarily given to it, inquiry should be made into the sources from whence the milk is obtained, and it will often be found that the trouble lies with the habits of the cows. These animals, especially in the dry weather of late summer, often seek low places in the meadows, and eat poisonous herbs and grasses, and sometimes the simple change in the character of the feed will be a sufficient cause to affect the milk and render it unfit for use.

The most evident differences between human and cow's milk are that woman's milk is sweeter, it contains less butter and casein, and the casein forms in much smaller clots and is more quickly dissolved. The milk of the mother is normally alkaline, while the reaction of cow's milk varies, and it may be acid.

Goat's milk, because of its richness in fat, disagrees with many, occasioning nausea and vomiting. Its disagreeable odour is also objectionable, and infants do not thrive under its use. Mare's and ass's milk contain less nitrogenous matter and fat and more sugar than cow's milk—that of the ass being very sweet and easy of digestion, although it sometimes causes diarrhœa if taken alone. When milk is boiled, a thin scum of albumen appears upon the surface, which, when removed, is quickly replaced by another. Boiling expels about three per cent. of gases, and the loss of oxygen diminishes the formation of lactic acid, and consequent souring. It somewhat affects the taste of the milk, and its use for any length of time produces constipation.

Should raw milk be given to infants?

This question has given rise to much discussion, and high authorities sharply differ upon the matter. We certainly know that, in many cases, pure milk does no harm, and that children thrive upon its constant use. Boiling the milk arrests the developments of germs and fungi, with which it may have been contaminated, and thus it may prevent occurrence of certain diseases, and the process of souring and coagulation is certainly retarded by boiling.

The quality of milk depends largely upon the breed and proper care of the cows. Much neglect in this direction is common among the producers of milk. There should be absolute cleanliness in handling everything belonging to the care of the herd, as well as in the process of milking, and the use of the vessels for receiving the lacteal fluid. Sometimes the milk is put at once into glass bottles, tightly corked. The pails and cans should be carefully washed, and often insured from germ poisoning by scalding with boiling water. In large establishments there should be an inspection of the sanitary surroundings, either by a physician or by an expert in hygienic science. The condition of the yards and stables should be thoroughly inspected, and care should be taken that the animals are not fed upon swill and garbage, and that certain kinds of food should be avoided, especially such substances as will give to the milk a disagreeable odour, like garlic, cabbage, &c. It has been suggested by good authority that there may be danger of tuberculosis disease by drinking milk from cows having "pearl disease," which is believed to be analogous to tuberculosis, but there is really no authentic case where this result has been produced in man, although lower orders of animals are thus infected. This is a matter for further investigation, for certainly the milk of animals having the above-named disease is below the normal standard of nutrition.

The inspection of milk by legal authority is of great importance, and in many States the requirements are specific. In New York the specific gravity is ascertained by the lactometer; in Massachusetts, Rhode Island, and Maine a chemical analysis is required. The normal average specific gravity allowed is 1·030.

The total quality of solids in milk should, according to Letheby, amount to fourteen per cent. Such inspection has been made necessary because of the adulteration of this important article of food. The most popular and simple form of adulteration is the addition of water. In order to give the milk a thickened look, after this dilution, chalk or flour is sometimes added. Bicarbonate of sodium and salicylic acid are often added, to prevent souring. If milk inspectors are honest men, and understand their business, it is a very easy matter to detect any of these base frauds upon the public.

The most popular products from milk are butter and cheese—those condiments and appetizers well known all over the world. Cheese is the separated casein of the milk, and it forms a highly nutritious article of diet, and, in some countries, where meat is scarce and dear, the people consume large quantities of cheese to supply the nitrogenous elements of diet, using the heavy and less highly flavoured of the cheeses. The wealthier classes

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use as a condiment the more highly flavoured cheeses, such as the Roquefort, Edam, Cheshire, etc. Taken in moderate quantities, these cheeses aid in promoting digestion, and are very palatable to the epicure.

Butter is made from cream by the mechanical rupture of the albuminous follicles which enclose the fat globules, which then adhere together into small masses. Butter contains six neutral fats, four of which being volatile give to it taste and odour. The adulteration of butter is accomplished by dealers by beating it up with water, and by adding other fats, especially suet and oleomargarine. Butter will not support life for any considerable length of time when taken alone. Taken in connection with other food, it is a highly digestible and nutritious, and often fattening, food.

Fermented, or "rancid," butter causes violent gastric derangement, and it is therefore important that it be thoroughly worked with a spatula, and frequently washed, and seasoned with at least two per cent. of salt. In California they have an ingenious way of ridding butter of a rancid taste, by subjecting it to the action of an electric battery. The butter is melted in a tub, and the poles of an electric battery, encased in flannel, are placed in it, so that a current of electricity when passed through the butter from one pole to the other determines a collection of the acids which caused the rancid taste at one or the other pole. In striving to reach the pole, the acids sink into the flannel, and may thus be removed.

Condensed milk, which is so much used for the food of infants, is prepared by slowly evaporating the water of milk by moderate heat. There are two varieties, the plain, which is condensed to about one-fourth of its bulk, and superheated, and to which no sugar is added, and the stronger variety, which is more condensed, and to which cane sugar is added in excess, yielding about forty-five per cent. of sugar among its solid ingredients. This excess of sugar prevents the decomposition of the milk, and it will keep fresh for many hours after the can has been opened.

Condensed milk, because of its convenient form, is used largely among the poorer classes, and infants seem to thrive well for a time. But, although they often grow fat, they develop poorly, and are less able to resist disease than children who use the pure milk.

According to Heubner, condensed milk has been used successfully in dysentery, and is a preventive of that dreaded disease of summer—scurvy.

Koumiss is another form in which milk is prepared for dietetic and medicinal uses. This is a fermented milk, prepared in a peculiar way, and used largely by the Russians. It is mildly stimulating, and sometimes intoxicating, and is used in cases of phthisis and intestinal derangements, and other wasting diseases. Its virtues have, no doubt, been exaggerated, the cures having been due more to the favourable climate along the steppes of Russia, where the patients under treatment resort, than to the curative qualities of the specific. The koumiss has been introduced into this country, where its curative qualities have been highly lauded. It is strongly diuretic, quenches thirst, increases the cardiac force, improves the muscular tone, aids general nutrition, and beautifies the complexion.

This preparation is made from cow's milk by various firms in the United States, and preserved in glass bottles, but it does not contain the peculiar flavour and the essential qualities belonging to the native article, which is made from mare's milk, and kept in smoked-out leather bottles, and subjected to various manipulations, which cannot be imitated even by Yankee ingenuity.—*Popular Science News*.

VICE AND SANITATION.

The close relation of crime to vice and of vice to disease, will make a study of these not unprofitable if not of practical value. Healthfulness is the natural condition of man, and so far as he departs from this natural condition, to that extent he has violated the laws of health. That he suffers the weaknesses transmitted by former generations does not alter the fact that his ills are the result of violations of health laws. The hardship he bears in this regard is lessened only by the consciousness that by proper training and the strict observance of hygienic laws he can regain that which has been lost to him.

Vice is not natural with man, and, barring accidents of birth, he grows vicious by some force or influence, in the absence of which he would have adorned and blessed life with virtuous living. Vice is a disease, the result of a depraved mind, an unhealthy condition of man's moral being. Man does not become addicted to vice until, through mental dissipations, he becomes possessed of vicious thoughts. As diseases existing are largely responsible for other diseases, so is existing vice the one great influence which is responsible for the continued presence of the multiform vices we have.

We do not know how intimately vice is connected with disease, but we do know of certain vices which are the results of a low order of health. It is also believed that proper care and sanitation would remove the weaknesses from which these vices result. A low condition of health, however induced, creates false and unnatural tastes and desires, and the vices of dissipation, extravagance, and intemperance follow. These further reduce the system, produce greater vitiated tastes, greater intemperance and extravagances, until crime, insanity, and suicide follow. That these ills could be lessened through the ministration of sanitary science there is no doubt. Could it go no further than lessen the weakness from which spring these vices, it would accomplish a work worth the effort of extending its services so far.

It is not the office of sanitation to mould a man's religion or dictate his morals, yet it will come as near touching his soul as any non-spiritual agency can. Good health is valuable not only on account of the physical strength, activity, and endurance it gives, but on account of the consciousness it brings of right living. There is something purifying and elevating in the recognition of a life lived so free from abuses and debilitating influences as to produce a sound physical being. The thought of having so lived, and the consciousness of a perfect physique built upon the laws that teach man the great lesson of right living, are ennobling, and impress the glory of that virtue in whose benedictions the healthful rejoice. The mind cognizant of these things is purified by its own reflections, and becomes the source of thoughts and actions of a higher and better nature. It is not impossible for sanitary science to touch the realm of mind and leave its impress upon the morals of men. Whatever its full mission may be, it is a valuable aid to the school and pulpit, and a fuller recognition of its virtues will enhance the general well-being of mankind.

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Public Health

"Health is the first Wealth."—*Emerson.*

CHROME YELLOW CONSIDERED AS A POISON.

By W. GLENN.

THE object of this note is to spread wide the facts that chrome yellow is a poison, and that its use in food-stuffs is by no means rare.

The cases reported up to this time, in which toxic action is assigned to lead chromate and to chrome yellow —bodies which apparently all writers consider as identical—are many more than 100. Seemingly the first report is to be found in the *Medical Times and Gazette* of Dec. 24, 1859, in which are set forth the cases of six school lads who were seriously poisoned by eating Bath buns. These latter were shown to contain each "seven grains of chromate of lead," which had been used as colouring-matter in lieu of eggs. All of the six lads are stated to have recovered.

In 1874, Von Linstow was next to assign toxic action to these bodies. He attributed to them the deaths of two children, within his own practice, who had eaten possibly seven artificial bees which had served to ornament a cake. Each of these bees had been coloured by about four milligrams of "neutral lead chromate." The cause of death was destruction of the coats of the œsophagus and stomach, with puncturing of the intestines. The cases are reported in Eulenberg's *Vierteljahrsschrift f. ger. Med.*, N.F., XX., and are mentioned as being a part of the literature of the subject. They are entirely discredited by the later work of Stewart, of Marshall, and of others, all of which will be mentioned later.

In 1882, R. C. Smith printed an account of more than fifty cases of poisoning among English mill operatives who had breathed the dust of lead chromate given off from yellow dyed yarn in process of manufacture. The cases occurred in his own practice and in that of his coworkers, and authentication is complete. The effect was chronic lead-poisoning, clearly developed. This account, so important and interesting, is but a brief statement of bare fact. It is to be found in the *British Medical Journal*, 1882.

Five years before the publication of Dr. Smith's paper, Leopold (*Vierteljahrsschrift f. ger. Med.*, N.F. XXVII. 29) published an account of a babe which he stated had died from breathing lead chromate dust from yellow dyed yarn. The cause of death is assigned to softening and perforation of the coats of the stomach—an opinion to which Leopold apparently was bent by the cases of Von Linstow, already cited. As we now know quite surely that lead chromate is not at all a corrosive poison, we must so far discredit Leopold's case. In the same account he states that four adults who breathed the same dust incurred chronic lead-poisoning. He was, therefore, first to trace that kind of effect to the breathing of lead chromate dust, and for that work we cannot offer him too much thanks.

The report of Smith is followed chronologically by the admirable work of Dr. D. D. Stewart, of Philadelphia, the early history of which is to be found in the Philadelphia daily papers of July, 1887, and in the office of the coroner of that city. A few months previously Dr. Stewart had found some cases of lead-poisoning which, through tenacity of purpose, he finally traced to bakers' stuffs as the cause. He secured in a bakery the chrome yellow with which these stuffs had been coloured, and showed that the baker himself was a physical wreck from eating his own wares; and, moreover, that several members of his family had died of lead poisoning, brought about by eating the chrome yellow coloured stuffs. This latter was proved by the bodies exhumed by the coroner, who investigated altogether fifteen deaths. The work was done by Deputy Coroner Powers, who, in an interview at his office on Sept. 10, 1887, told the writer that it was a small estimate to put at 200 the people in Philadelphia who had died of lead-poisoning induced by bakers' stuffs. The causes of death, he said, had been certified to various diseases, among them malaria and cerebro-spinal meningitis, but that now all physicians agreed that they were cases of lead-poisoning.

One who had examined the mortuary records informed the writer that others of these deaths were assigned to typhoid, typhus, epilepsy, Bright's disease, and to lepto meningitis. The real causes were established by Dr. Henry Leffmann, who analyzed the viscera of the exhumed bodies. The victims had died of lead-poisoning. During the coroner's investigations, it was shown that the use of chrome yellow by bakers as a colouring-master was quite common. At an inquest held July 11, 1887, the evidence of Dr. Miller, of the firm of Aschenbach & Miller, dealers in colours, was "that he believed that 80 per cent. of the bakers in the city" used chrome yellow in certain of their bread-stuffs. In February of the following year, two of these bakers were sentenced to terms of imprisonment. The courts appear to have been lenient because the bakers themselves had been so distressed by the poisoning. One of them had lost a wife and five children, and was himself a wreck.

The discovery of the cause of so much suffering and death in Philadelphia is due to Stewart alone; and no less to him is due the action taken by the officers of the law towards the victims and the criminals.

The clinical history of Dr. Stewart's cases may be found in the *Medical News* of three dates: (1) June, 1887, under the title "Notes on Some Obscure Cases of Poisoning by Lead Chromate;" (2) Dec. 31, 1887, "Clinical Analysis of Sixty-four Cases of Poisoning by Lead Chromate (Chrome Yellow) used as a Cake-Dye;" (3) Jan. 26, 1889, "Poisoning by Chrome Yellow used as a Cake-Dye: A Subsequent Clinical History," &c. The literature of the subject has nothing at all comparable with these papers. In this field the author stands easily first among his brethren.

The chemical and pathological sides of the subject have lately been worked out, with painstaking and in the scientific spirit, by John Marshall, M.D., of Philadelphia. His paper is to be found in the *Therapeutic Gazette* for Feb. 15 of the present year. His experiments were made upon dogs, to which he gave pure lead chromate in various quantities, up to eighty-four grams. Careful analyses were made of the products of decomposition going on in the living animals, and finally autopsies were performed upon their bodies. The experimenter found that lead chromate had been decomposed in the bodies of the living animals, and that lead and chromium had been absorbed, and that in all cases "the stomach showed no evidence of corrosion." This work of Dr. Marshall is altogether excellent. No epitome of it could do it justice, and of course the workers in this field will read the original paper. It is proof positive that lead chromate could have produced all the effects which Stewart insists it did produce, in his cases.

The work so well done by Marshall suggested itself to

the present writer at the time of the newspaper publication of Stewart's cases, and dogs were selected for the experiments. But it was put a stop to by two discoveries: (1) that the writer did not possess the knowledge requisite, and (2) that chrome yellow of commerce was not lead chromate. This latter discovery arose out of the analyses of various samples from many manufacturers, a few of the results being as follows :—

No. of Sample.	Lead Chromate.	Lead Sulphate.	White Lead	
1	66·38	28·83	x	Samples analyzed as received, and no account taken of moisture.
2	32·52	18·82	47·04	
3	60·77	11·90	24·38	
4	14·47	20·81	60·95	
5	58·10	36·24	x	
6	26·79	68·84	x	

No. 1 was obtained in open market, and bore the name of distinguished manufacturers. It was marked "Pure Precipitated."

No. 2 was given the writer by Dr. Henry Leffmann, before mentioned. It was part of a sample submitted by the coroner of Philadelphia to his jury sitting upon one of the poisoning cases unearthed by Stewart.

Nos. 3, 5, and 6 were from a manufacturing chemist in Baltimore who wanted pure lead chromate, and who undertook to obtain it from among his correspondents. These three samples were certified as perfectly pure.

No. 4 was given the writer by Dr. Miller, from out of the stock of Messrs. Aschenbach & Miller, who as merchants were concerned in the Philadelphia chrome-yellow cases. It was kindly submitted as being of the kind used by the bakers concerned in Stewart's cases.

The samples given in the above table are selected as being typical of good commercial chrome yellow. Efforts continued through nearly a year did not result in finding a single sample of lead chromate sold as chrome yellow.

Having ascertained that commercial chrome yellow consisted of lead chromate with lead sulphate, and with white lead frequently, it followed that such a compound could produce lead-poisoning, and certainly would if taken into the stomach during any length of time. There could not exist, therefore, any doubt as to the correctness of the views of Stewart, so far as concerned the source of poisoning.

Shortly after newspaper publication of the Philadelphia cases, the writer bought and examined in Baltimore several samples of yellowish bakers' stuffs. None of them contained lead. But there was no such result with certain kinds of candy. There was to be had in two of the Baltimore public markets an abundance of candy made from glucose, and coloured by chrome yellow. With the view of stopping its sale one of the city papers agreed to collect candy samples by means of its reporters, and cause them to be analyzed. This was done, and on the first day of search five samples were bought in two of the markets. Four of the five contained chrome yellow in quantity from 0·199 per cent. to 0·319 per cent. The analyses are to be found in the *Baltimore American* of April 22, 1888, and are signed by the writer and his co-worker, Dr. William Simon. Both of us had repeatedly bought in the markets, and together had analyzed similar candy with the same results. The quantity sold in a market on a market-day apparently was not less than ten nor more than thirty pounds. We have preserved samples of the material, and shall be glad to divide them with workers in this field. Such candy, consumed in such quantities, cannot have failed to produce in Baltimore an abundance of lead-poisoning.

From all this we deduce the following conclusions: that lead chromate breathed as dust, or taken into the digestive apparatus, produces lead-poisoning; that commercial chrome yellow ingested with food-stuffs produces more quickly the same result; that chrome yellow is a mixture of lead chromate and lead sulphate, to which frequently is added white lead ($2\,Pb\,CO_3 + Pb\,H_2\,O_2$); that none of these substances are corrosive poisons; that bakers' and confectioners' products not infrequently are coloured with chrome yellow, and often are sources of lead-poisoning, which may exist largely in a community and yet escape detection.

A Royal Appointment.—Readers of Health, and especially those who are familiar with the merits of the boots made by Mr. Scafe, of the Leather and Rubber Boot Company, Leeds, will be pleased to hear that he has received a Royal Warrant appointing his firm bootmakers to H.R.H. the Prince of Wales. This is a well deserved tribute to the excellence of Mr. Scafe's invention, and to the high quality of the hygienic boots made on his principle.

Night Air.—An extraordinary fallacy is the dread of night air. What air can we breathe at night but night air? The choice is between pure night air from without and foul air from within. Most people prefer the latter—an unaccountable choice. What will they say if it is proved to be true that fully one half of all the diseases we suffer from are occasioned by people sleeping with their windows shut? An open window, most nights in the year, can never hurt any one. In great cities, night air is often the best and purest to be had in twenty-four hours. I could better understand shutting the windows in town during the day than during the night, for the sake of the sick. The absence of smoke, the quiet, all tend to make night the best time for airing the patient. One of our highest medical authorities on consumption and climate has told me that the air of London is never so good as after ten o'clock at night. Always air your room, then, from the outside, if possible. Windows are made to open, doors are made to shut—a truth which seems extremely difficult of apprehension. Every room must be aired from without, every passage from within.

Italian Butter.—The Italians do not excel in the manufacture of butter. It is produced considerably only in four districts, of which Lombardy furnishes the best, usually through the market of Milan. The butters of Reggio and the Tyrol are used for mixtures, and those of Æmilia and Sorrento are unimportant in quantity. In the rest of the country, oil, fat of American origin, or substitutes are used for daily wants. According to the French consul at Milan, the principal obstacle to the development of the trade in pure butter is the increasing use of these substitutes, and artificial butters, which are imported from America, France, Germany, England, and the Netherlands. "The demand for butters in Europe, South America, Australia, India, Japan, and even China, has become so important that, in presence of the insufficiency of the natural product, it became necessary to manufacture an analogous substance, so that in Holland and Denmark, the principal countries producing pure butter, the artificial butter industry was undertaken without fear of prejudicing the pure article. It was not long before Italy followed the example of these two countries, but the first attempts were not fortunate." Italian margarine butter costs from forty to forty-five per cent less than pure butter, and is more easily handled.

Healthy Houses

"A happy home must be a healthy home."—*Anon.*

SANITATION OF SCHOOL BUILDINGS.

THE construction of schoolhouses, from the small country building to the edifices that adorn our cities, has shown a slow process of development. That this development has been tardy is manifest from the old-time, ungraceful, and unhealthful buildings yet seen standing throughout the country, and still devoted to the purpose for which they were built. Within the last few years this development has been marked with a greater rapidity. Cities boast of their fine school buildings, and many smaller towns are proud of these "monuments reared to the cause of education." It is a pleasure to note this improvement; yet there is cause to regret that in all this progress and pride of buildings sanitation has been neglected. Reports are rare in which the sanitary condition of schoolhouses is commended. There is more complaint lodged against these buildings than we find made against any other class. If asked for the reason of this the answers would probably be as many as the persons asked. The truth is there are many reasons. One is: That which is everybody's business is nobody's business. A school building is never erected for one man or one family. It is often constructed as a "job" by a contractor, whose lowest bid secured the work, and who does not care a straw for anything further than getting his money and working in all the "extras" he can.

School boards have experimented very industrially regarding the cheapest method of heating buildings; different means have been tried, and statistics compiled with a view of lessening the expense of keeping school buildings warm. We would like to see the same activity manifested regarding the healthfulness of these buildings. The mistakes in the construction of many buildings can be greatly remedied, and in all sanitary precautions can be taken to render the rooms clean, properly heated, ventilated, and made pure. Many of the evils arising from the defects in sanitation in school buildings could be prevented by following simple instructions that any janitor can understand and execute.

In the Hygienic Institute in Berlin a course of instruction is given to the school officers, covering the most important and practical principles in school hygiene. These instructions relate to the construction of school buildings, light, heat, ventilation, care of the schoolroom, construction of desks, disposal of waste, drinking water, infectious diseases, and kindred matters. These lectures are illustrated by the use of material collected in the Museum of Hygiene and by visits to the model schoolhouses of Berlin. Results have justified this course.

In the city of Boston the Committee on School Hygiene, observing the lack of proper sanitation, and knowing its value, have, for the purpose of placing school buildings in the best possible sanitary condition, resolved the following: "That the Committee on Accounts be requested to instruct the janitor in each school that he shall keep all the windows and doors in his school open for five hours each day of the week just preceding the opening of the school year (in September), in order that the building may be thoroughly aired for the purpose of disinfection; also, that on one of the days mentioned (the last day preferred) the building shall be heated sufficiently to remove all dampness which may be present; also, that on the first of the days named the water shall be turned on in all the faucets on the premises which empty into receptacles communicating with drains or cesspools, and allowed to flow long enough to insure the perfect working of the traps attached, from which the water may have evaporated during the vacation time; also, that during the week mentioned the whole inside of each room shall be thoroughly brushed or rubbed down; that all the painted surfaces in the school shall be cleansed with a solution of corrosive sublimate (1 part to 500); that all the floors shall be mopped or wiped with a cloth moistened with the same solution; and that all the desks, furniture, and apparatus shall be cleaned, and, where possible, washed or rubbed with a disinfectant solution."

There are many places in this country where proceedings of that character would be laughed at, and not a great while ago in cultured Boston the projector of such a course would have been termed a crank. But such is the progress of sanitary science that all customs and prejudices have been broken down, and we may expect in the future that our schoolhouses will become models of healthfulness, as well as the pride of architecture. Yet in the present state of affairs we can justly complain of the tardiness of school officials in accepting the teaching of sanitary science, and in utilizing the hygienic knowledge they have.

HIDDEN POISON POINTS.

AN American contemporary says that danger lurks where it is least expected, and in no place is this oftener the case than in plumbing work. Once done right, it is a blessing; but, should it be imperfectly arranged, the insidious fangs of hidden dangers fasten themselves upon human life and throttle it without remorse. Time also has its terrors for plumbing, and the closest scrutiny and many years of practical experience are required to find wherein it is defective.

"We were requested to make an examination of the plumbing in a house recently on the West Side," said W. B. Oliphant, of Oliphant and Liddell, West Madison-street, plumbers, a few days ago, "in which an inspector from the Health Department had made an inspection a short time before. The inspector made a favourable report, to the effect that the house was in as good sanitary condition as a house that had stood the length of time which it had usually was. The house had stood about twenty years. There had been two deaths within a brief period of each other previous to this time, and a young lady was ill then. The plumbing was said to have been placed in the house with great care and was perfect from a sanitary standpoint, as the man who built the house, who was not a plumber, an architect, or a builder, had superintended its construction himself. The plumbing was well done; at least, it was as well done as any at that time; they understood the practical, at any rate, even if they did not understand the scientific part of it. When the Health Officer reported the house in good sanitary condition, the patient was led to hope that she would shortly be restored to health, but she was not. The physician came to the conclusion that the house would bear another inspection. The owner then came to us and wanted us to investigate this case of defective plumbing, which was merely a supposition on the part of the physician. He could not understand why the patient did not recover within a reasonable time under the treatment which he gave. We examined the work, and found that the principal portion of the lead soil-pipe had passed its time of usefulness. It was honeycombed for several feet, and was emitting gases from the sewer into the recesses in which it was laid,

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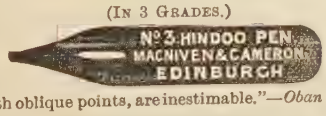

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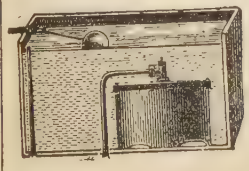

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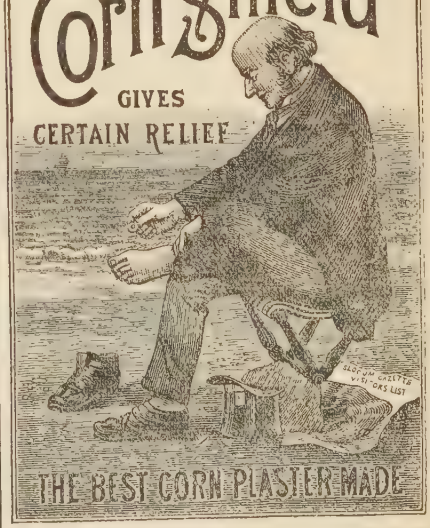

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The price of numbers 1–156 has been increased to 4d. each, as, in consequence of the great demand for them, they are now nearly out of print. Nos. 157 to date may be had, price 2d. each.

LONDON: A. P. WATT, 2, PATERNOSTER-SQUARE, E.C.

and which was in turn distributed to the different rooms in the house. In addition to this, there was a safe-waste connected with this same soil-pipe, and had been for twenty years. The only protection it had was a two-inch trap with which the different safe-wastes connected. From this trap the water had evaporated long since, and it evidently had been dry for years, and the gases from these safe-wastes had passed through to the different rooms in which the safe-wastes were located. We were instructed to go to work and put the house in good condition, and we did. In a short time the patient recovered. So you see the lack of a scientific knowledge of plumbing, at the time that work was put in, cost two, or perhaps more, persons their lives."

"I know of a case somewhat like that," said David Bain. "I was called to a house to make an examination of the plumbing. The people were sure that there was sewer-gas in the house, and had had several inspectors from the Health Department to make an examination, but they failed to find anything wrong. I went into the bath-room. There was no sewer-gas there. In the room where the patient lay—for there was sickness in the house at the time—I thought I detected sewer-gas. The only possible place it could come from was the register from the furnace. 'It comes from the cold-air duct,' I told the head of the house. 'Oh, no, you're mistaken; we have no cold-air duct to our furnace.' I made up my mind, however, that it came up from the furnace. Going down in the basement, I found that a tile drain run along the one side of the wall near the furnace and connected with a surface basin near the front of the house. This basin, which connected with the sewer, was entirely dry. The furnace had caused a current, and was drawing the gas from the tile drain and emitting it through the house."

Novel Use for the Potato.—That there never is any certainty as to what base uses the most treasured of our possessions may be put to at one time or another, has just been freshly demonstrated. *L'Industrie Parisienne* tells as that our old and tried friend, the succulent potato, is being utilized in a very strange manner. Our contemporary states that there is a Parisian laundryman who has entirely discarded the use of soaps, sodas, bleaching powders, and all other varieties of detergents in the pursuit of his business avocations. He merely uses plenty of water (hard or soft, from well or river) and boiled potatoes! The plan is said to be eminently successful, and without employing any kind of alkali, he is able to "get up," with credit to his establishment, the most soiled of linens, cottons, or woollens. When poor Parmentier introduced the strange American root to his *gourmet* compatriots, he little thought that the delicious and useful tuber would come to be used in Parisian laundries for the cleansing of dirty linen instead of filling hungry stomachs.

Fifth Edition.—Now Ready.—Greatly Enlarged, and completely Revised.

"*A Book every Young Man should read.*"

"A Lecture to Young Men on Purity of Life and the Preservation of Health." By A Graduate. Price One Shilling, or post-free, 1s. 1d., from Henry Renshaw, Medical Publisher, 356, Strand, London, W.C.

This pamphlet, now being issued in its Fifth Edition, forms a complete refutation of quackery of all kinds, and is a safe and reliable guide, from the medical standpoint, to all young men. Every Youth should read this pamphlet as a guide to the safe conduct of life in a moral and physical sense. Full directions for the treatment of "Nervous Debility" so-called, and allied ailments, are also given. Thousands of sufferers have welcomed this pamphlet as a veritable beacon-light to health and purity of life.

Jottings from the Journals

"Th' ingredients of health and long life are
Great temperance, open air,
Easy labour, little care."—*Sir Philip Sydney.*

The Tourist Season.—We are at a period of the year when most town residents who can afford it are thinking with varied feelings about the summer holiday that they wish to take or have to undergo. Perhaps the most interesting type of holiday-maker is the true tourist—that is to say, the man who spends his vacation going about from place to place. The tourist class includes young men who go touring because they love exercise and novelty, and men of mature years who get depressed in lodgings at the seaside, and do not care for the habits of the public who throng to inland "waters." The elder tourist generally finds a tour far better as a remedy against professional fatigue and anxiety than a wearisome sham repose for three weeks or over in a dull watering-place properly suited for children. The tourist proper, when in congenial company or in his own company, follows his tastes; we put aside unfortunate men who tire themselves out feasting in Paris, or clambering over mountains in the company of younger companions who like those forms of relaxation, and we likewise dismiss from the true tourist class young gentlemen who travel with elder companions versed in old masters and archæology. Such unhappy men are victims, not tourists; their journey is a penance, not a relaxation. As for the touring Briton who hurries on as far as possible for his money, he enjoys himself after his fashion, and, so far, his tour does him good. The advantage of a good walking tour in the country or abroad is self-evident in the case of young men who will not exhaust themselves, and in respect to elder men still vigorous and endowed with prudence. Great, undoubtedly great, is the benefit of those more intellectual excursions so often undertaken by English gentlemen. Few pleasures are purer or more wholesome than a ramble through cathedral towns and cities, where architecture and historical associations can delight the mind fatigued by monotonous or absorbing intellectual work. Such men are often held up to ridicule; they are reminded that the country is the place for a holiday. This reminder includes a theory true in the main, but liable to misapplication; for such men have often lost the power of enjoying the country. Place one, or even a congenial brace, of these gentlemen for a fortnight in a secluded pastoral district, and he or they will soon become depressed and think of business too much, or possibly eat, drink, or smoke to excess. The first requisite in the tourist who can afford time and money is that he should follow his tastes.—*Lancet.*

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Mental Growth from Manual Training.—The new class of schools which includes in its course of study exercises for the hands has been much misunderstood, even by some who have undertaken the charge of such institutions. The phrase "manual training" in the names of these schools has conveyed the impression that handwork is not only their distinctive, but their dominating feature. The true aim and the intellectual character of these schools are admirably presented in the article on "The Spirit of Manual Training," by Prof. C. Hanford Henderson, which opens this issue of the *Monthly*. As Prof. Henderson shows, there is no school whose plan is so free from one-sidedness as the manual training school. "The specific purpose of such schools," he says, "is to

offer an education that includes as far as possible all of the faculties. Its favourite maxim is, 'Put the whole boy to school.' Its mode of carrying out this purpose is the very practical one of occupying the time in any way, formal or informal, that will best lead to the end proposed." The chief danger which besets such a school is that of becoming a shop, and producing artisans rather than developing men. There are many who are not aware that any other effect follows from the training of the hands than the power to make certain articles. But not a finger can be consciously lifted unless an impulse is first sent to that finger from the brain. The bungling motions of unpractised hands are due to the imperfect control of an undeveloped brain, and the gradual acquirement of the power to move the hands to just the right extent, in just the right direction, and with just the right amount of force, is accompanied by a proportionate development in the brain. The increasing sensitiveness of the eye to detect slight deviations from a perfect square, vertical, or circle carries with it a general ability to see accurately, and to rightly interpret the visual impressions presented to the mind. Manual training has also a higher influence. The boy takes a pride in his work; and, in overcoming the difficulties of his successive tasks, he develops the virtues of perseverance, self-reliance, and honesty. These schools are still in a formative stage, and doubtless imperfections and errors may be found in the character of any particular institution; but if the spirit which Prof. Henderson reveals shall dominate the manual training school, its book-study and its shop-work promise to form the best system of all-round educational development that has yet been devised.—*The Popular Science Monthly.*

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The Mortality in the City of New York for 1888.—A preliminary report in relation to the mortality of the city for the year 1888 has just been presented to the Board of Health by Dr. Roger S. Tracy, the Assistant Sanitary Superintendent; and the deductions made in it, as we find them summed up in the *Boston Medical and Surgical Journal*, are somewhat remarkable. The sanitary police took a census of the tenement-house population during the year, which includes all the houses that are more or less constantly under the supervision of the Board of Health, but not the better class of apartment houses. The entire population included in this census was 1,093,701 persons, among whom there were 24,842 deaths, while the total number of deaths in the city was 40,175. The highest death-rate, 26·60 per 1,000 of the population, is in the district south of 14th Street and west of Broadway; the next highest, 23·52, is in the district west of Fifth Avenue and between 14th and 59th Streets, in which are situated a large proportion of the residences of the wealthiest citizens; and the third highest in the district east of Broadway and south of 14th Street, the most densely populated part of the city, and containing almost exclusively a tenement-house population. The general tenement death-rate was 22·71, while the general death-rate of the city in 1888 was 26·33; and this fact would seem to indicate that the population of the city has been under-estimated, and the quoted death-rate too high, or that all the deaths belonging in tenement-houses had not been credited to them, or else that the death-rate is actually lower for the tenement-house population than for the rest of the city, which would certainly seem most extraordinary. It might be that deaths that should have been credited to the tenement-houses have not been so credited; but of the total number of deaths in institutions, 7,774, the former place of residence of the individuals was ascertained in 3,444, and these deaths have all been credited to the houses in which they had lived. In all the districts the death-rate of persons five years of age and over, as a rule, decreases as the number of tenants increases; while the death-rate of children under five years of age increases up to a certain point, diminishing when there are more than eighty tenants to a house. The general death-rate is highest in houses containing from sixty to eighty tenants; and this is caused by the higher death-rate among the children, which reaches in these houses 114·04 per 1,000 living. The results of the investigations are summed up by Dr. Tracy as follows:—"The death-rate in tenement-houses is less than the general death-rate of the city. The death-rate in the large tenement-houses is less than in the smaller ones. While diarrhœal diseases and diphtheria show a greater death-rate in the larger houses, phthisis and pneumonia show comparatively little difference; that difference, however, being in favour of the larger houses. The greatest general death-rate among persons over five years of age, the next to the highest death-rate from diarrhœal diseases and pneumonia, and markedly the highest from phthisis, are in the district south of 14th Street and west of Broadway. The excessive mortality in this part of the city is probably connected with the great number of old houses and the dampness of the soil. These results are much at variance with what was expected. It seems to be sufficiently established that people do not live under such extremely bad sanitary conditions in the tenements as they have been supposed to."

Healthy New York Girls.—Said a gentleman from a small country town in Massachusetts to me recently: "Talk about delicate New York women! Why, I see more healthy women on Fifth Avenue in two hours than I see in Massachusetts in a year."

Scarlet Fever.—Concerning scarlet fever, Dr. G. G. Tyrell, Secretary of the State Board of Health of California, says, in the monthly circular of that Board, that as the tendency to infection from this disease lessens with advancing years, the longer a child can be protected from it the greater the likelihood that it will escape it entirely. To attain this desirable end, it is absolutely necessary to isolate patients as soon as the disease is discovered; and this isolation must be maintained until the shedding of the epithelium or outer skin is completed. It is a well-known fact that scarlet-fever patients are most dangerous to others when the skin is beginning to desquamate or peel off. During this time they should be frequently bathed, and their skin afterward anointed with fresh lard or other animal oil, which will hinder the dissemination of the branny scales. Children exposed to scarlet fever should remain under observation ten or twelve days before being allowed to mingle with other children, and all attendants on the sick should change their garments and disinfect their hands, face, and hair by washing in a disinfectant solution, before mixing with the public. It must not be forgotten that the type of the disease in one person is not certain to reproduce the same in another, as what is so mild as scarcely to confine to bed in one person may communicate a poison to another that will be so very malignant as to cause death in a few hours. It is, therefore, the part of prudence to confine the spread of the disease to within as small a radius as may be possible. To determine the most infective period of the disease, Dr. Whitlegge, of London, analyzed 1,700 cases, of which he had exact particulars, and found the infectiveness suddenly decreased at about the sixth day, increased again about the twelfth day, and reached its maximum on the sixteenth day.

Our Bookshelf

"Reading maketh a full man."—*Bacon.*

CITY LIFE.

Health Troubles of City Life. By G. Herschell, M.D. (Bristol: John Wright & Co. 1889.)

In this volume the author endeavours to deal with the troubles he conceives to be incidental to the worry of business life in our great cities. As a rule, we think Dr. Herschell has contrived to convey his meaning clearly. He begs (p. 38) that his medical brethren will forgive him if he tries to explain the mechanism of the heart's nervous regulation in plain and untechnical language. We should not have thought this endeavour was matter for apology, inasmuch as the gift of conveying scientific information in "plain and untechnical language" is all too rare in medical authors. Dr. Herschell's praiseworthy endeavour, we are sorry to find, is not sustained throughout his pages; for in page 42 we find him speaking of "enlarged thyroid gland and pulsating carotids of exophthalmic goitre or Graves' disease"—terms these, highly technical in nature, and not explained to the lay reader for whose instruction ostensibly the book is intended. Again, would it not be well for Dr. Herschell in the next edition of his work to explain what is meant by the words that "any of the primary simple psychoses may develop, and it may prove to be the preliminary phase of paretic dementia." In a technical work, these phrases are not out of place. In a manual written for laymen, they are simply so much Greek and Hebrew. Apart from these objections, Dr. Herschell's book has much to recommend it; and city men would do well to peruse it carefully and to order their lives according to the health-rules its author lays down.

DRUNKENNESS.

Inebriety: its Etiology, Pathology, Treatment, and Jurisprudence. By Norman Kerr, M.D. Second Edition. (London: H. K. Lewis. 1889.)

This work, now in its second edition, was fully reviewed by us on its first publication. We have nothing to add to our notice of the volume, save to recommend it anew to those who are in any way interested in drunkenness as a scientific and social study. Legislation, as Dr. Kerr notes, is advancing on this question, and books like this do much good by educating the public mind in the details of a great and crying evil, for the repression of which the law should certainly be invoked as an aid to earnest social, and other methods of reform.

THE THAMES.

A Pictorial History of the Thames. Compiled and edited by A. S. Krausse. With 340 illustrations. (London: Chatto & Windus. 1889.)

This volume, published at the marvellously cheap price of one shilling, is certain to become popular with that vast population which makes the Thames its centre of holiday operations. The sketches are well executed and are embodied conveniently in the text; and the information is conveyed with a light touch which will render the book all the more pleasant a companion to a boating expedition. The references to hotels might have been of fuller description, but it is difficult to avoid fulsome praise as distinguished from ordinary commendation when dealing with modern hostelries. The volume should be placed in the knapsack of every pedestrian and of every rower who intends visiting the Thames and its tributaries.

PHOTOGRAPHY.

Beginner's Guide to Photography. By a Fellow of the Chemical Society. (London: Perken, Son & Rayment. 1889.)

Sold at the modest price of sixpence, this volume professes to instruct the tyro how to attain proficiency in the photographic art. We have looked through it with pleasure, and regard it as a very handy little guide to practice with the camera. The processes of taking and developing a picture are fully described. The amateur will find in this manual all necessary instruction enabling him to become a successful photographer.

A BOOK FOR MOTHERS.

Hygiene of the Nursery. By Louis Starr, M.D. 2n Edition. With 25 Illustrations. (London: H. K. Lewis. 1889).

This is one of the best books on the management of infancy we remember to have perused. Its claims to this commendation arise from its being clearly written, from its adherence to the science of hygiene in respect of all its details, and from its apt illustrations. In the course of ten chapters Dr. Starr discusses the health of infants, the nursery, the nurse-maid, clothing, exercise, sleep, baths, and food. He gives a list of excellent recipes for children's foods, and adds a chapter on what to do in emergencies. Throughout, the practical tone of the book instils confidence in the author's teaching. Every mother should buy this volume; and after so saying, we can award it no higher praise.

Sanitary Appliances, Etc.

A NEW BEVERAGE.

From Messrs. May-Davis & Co., Esher-street, Westminster, London, S.W., we have received samples of a new beverage to which the name of "Bontha" has been given. This fluid is a sparkling beverage, pleasant to the taste, and is warranted to contain no drugs or alcohol. It derives its stimulating properties from the principle of tea, and appears to us to be well calculated to supply the demand for an agreeable non-alcoholic drink. From our examination of "Bontha," we can certify that it is entitled to the full confidence of those who desire a pleasant drink free from alcohol, and which may be taken as an agreeable change from lemonade and like fluids.

Sixty-five Years of Wedded Life.—The realization of the sixty-fifth anniversary of one's wedding is an experience altogether unique. Such, however, fell to the lot of Mr. and Mrs. W. Barnet, sen., of Gawler, on Friday, June 7. Mr. Barnet is now in his ninetieth year, and his venerable partner in her ninety-first, their combined ages thus totalling 181 years. Up to within a short time ago both enjoyed excellent health considering their advanced years, but latterly Mr. Barnet has exhibited signs of encroaching feebleness. During the day numbers of residents called upon them and offered their hearty congratulations on the event, and the evening was spent in company with the members of their family, including Mr. W. Barnet, of the Gawler *Bunyip*, and Mrs. James Fotheringham. Mrs. Barnet is still in the enjoyment of excellent health. Mr. G. Barnet, proprietor of the *Kinross-shire Advertiser*, and well known in connection with angling on Loch Leven, is a son of this aged couple.

IMPORTANT ANNOUNCEMENT.

BONUSES TO SUBSCRIBERS TO "HEALTH."

HEALTH, as our readers are aware, may be obtained of all Booksellers and Newsagents, and at the Railway Bookstalls, on the day of publication. It may also be ordered from the PUBLISHER, 2, Paternoster-square, London, E.C., who will send the journal, post free, for a year, on receipt of postal orders for 10s. 10d.

As many of our readers who live in remote districts prefer to obtain HEALTH from the Publisher direct, and as we are desirous of increasing the already large number of subscribers who give us a yearly order for the journal, we offer the following FREE GIFTS and BONUSES to all who subscribe to HEALTH for one year or longer :—

(1.) To each Subscriber who remits 10s. 10d. to the Publisher, entitling him (or her) to receive one copy of HEALTH, post free, for one year, we shall present a copy of Dr. Andrew Wilson's work, entitled "A Manual of Health Science" (Longmans & Co.), value 2s. 6d.

(2.) To each subscriber who remits 21s. 8d., entitling him or her to receive two copies of HEALTH weekly, post free, for one year (or one copy for two years), we will present Dr. Richardson's "Ministry of Health" (Chatto & Windus), value 6s. The copies of HEALTH so ordered may be posted to separate addresses.

(3.) To each person who subscribes 32s. 6d., for three copies of HEALTH, post free, weekly, for one year, we will present the volume by Dr. Richardson mentioned above, and also the handsome, illustrated book entitled, "Studies in Life and Sense," by Dr. Andrew Wilson (Chatto & Windus), value 6s.—being a free gift of the total value of 12s.

The bonus last mentioned will also be presented to anyone who succeeds in obtaining three yearly subscribers to HEALTH, and who remits to the Publisher the sum of 32s. 6d., together with the names and addresses of the persons to whom the copies are to be posted each week.

As the literary gifts above-mentioned constitute books containing solid and reliable information regarding health and other matters of popular scientific interest, it will be seen that the above scheme, while intended to increase our already large circulation, also offers distinct advantages to new subscribers who guarantee by their subscriptions a year's support to this journal. All communications regarding subscriptions and other purely business details connected with HEALTH should be addressed directly to the PUBLISHER, 2, Paternoster-square, London, E.C., and *not to the Editor*.

Our Letter-Box

"Conference [maketh] a ready man."—*Bacon.*

NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including Books for Review, Specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR OF HEALTH," 2, PATERNOSTER-SQUARE, LONDON, E.C. *Those intended for the Publishing Office to be sent to* MR. A. P. WATT, THE PUBLISHER, *at the same address.*

RULES FOR CORRESPONDENTS.

OWING to the mass of letters which reaches us each week, we respectfully direct the attention of Correspondents, desiring

"ELECTRICITY IS LIFE."
(TRADE MARK.)

PULVERMACHER'S
WORLD-FAMED
GALVANIC BELTS,

FOR the CURE of NERVOUS DISEASES,
HAVE RECEIVED TESTIMONIALS from
THREE PHYSICIANS to
HER MAJESTY the QUEEN,
THE ACADÉMIE DE MÉDECINE of Paris and
FORTY MEMBERS of the
ROYAL COLLEGE of PHYSICIANS of LONDON.

RECENT TESTIMONIALS.

GALVANISM *v.* RHEUMATISM.
109, Ingfield-road, East Grinstead, 7th August, 1889.
Dear Sir,—I have great pleasure in stating that the Galvanic Belt I purchased from you for my wife, who was suffering from Rheumatism, has acted most satisfactorily in every way.
I have recommended your treatment to several of my friends for the cure of Rheumatics, and I only hope they may reap the same benefit my wife has done.—Yours respectfully, E. S. SMITH.
Mr. J. L. Pulvermacher, 194, Regent-street, W.

GALVANISM *v.* RHEUMATISM.
203, Corfield-street, Bethnal-green-road, London, 22nd July, 1889.
Dear Sir,—I consider your Galvanic Belts are worth their weight in gold, and I shall always recommend them to my friends. I have entirely recovered the use of my leg; and my mother, who is seventy-three years of age, has been cured of rheumatism. I cannot speak too highly of your treatment, which has been a blessing to my whole family, and some friends in Lowestoft tell me they would not be without one of your Belts in the house for any money.—Yours respectfully, (Mrs.) A. THURSTON.
Mr. J. L. Pulvermacher, 194, Regent-street, W.

GALVANISM *v.* SEVERE PAIN AND EXHAUSTION.
Stratton, Cornwall, 16th July, 1889.
Dear Sir,—I am happy to inform you that the patient for whom I purchased your Galvanic Belt experienced most decided relief from pain in twenty-four hours, and has since continued to progress. Before trying your treatment the patient was in a state of continual pain, at times agonizing, and we felt life could not much longer endure the strain. The patient is also greatly improved in general health, and is wonderfully better in every way. Privately I shall be willing to answer inquiries—stamped envelope being enclosed.—Yours faithfully, W. R. H. WILLETT.
Mr. J. L. Pulvermacher, 194, Regent-street, W.

GALVANISM *v.* NERVOUS DEBILITY & HEADACHE.
Alvaston, Derby, 6th July, 1889.
Gentlemen,—I am pleased to say that I have derived great benefit from your Galvanic treatment, and when talking to any one in our town or wherever I may be, I always recommend you, because I have now proved your Galvanic Belt to be the best remedy for nervous headache and nervousness generally that I have ever tried.—Yours very truly, W. S. WOODWARD.
Messrs. Pulvermacher & Co., 194, Regent-street, W.

GALVANISM *v.* LOCAL WEAKNESS.
Finchley, near London, June 23rd, 1889.
Dear Sir,—In October last you supplied me with a Chain Battery Combined Band and Belt, from which it is no exaggeration to say I experienced relief in a few days, and in five months was completely cured of the local weakness from which I was suffering for more than three years. I had tried various remedies without effect, but your method operated at once. It is simple, natural, and safe, and I only wish the thousands who, it is grievous to think, are suffering from these dire maladies, could hear of and give a trial to your treatment.
Allow me to thank you again most sincerely for the kindness which you personally showed me at a critical and perplexing moment. I shall not easily forget it, but doubtless you are compensated by that generosity of heart which brings its own reward. I enclose my card, and you are at liberty to publish this and to refer any one to me privately, but I particularly desire my name to be suppressed publicly.—Gratefully yours, "Z."
Mr. J. L. Pulvermacher, 194, Regent-street, W.

GALVANISM *v.* SCIATICA.
Donnington House, Stow-on-the-Wold, June 22nd, 1889.
Dear Sirs,—I am pleased to say that the combined Electric Band you sent me for Sciatica has quite cured me.—Dear Sir, yours truly,
GEO. WHITFIELD.
J. L. Pulvermacher & Co., 194, Regent-street, W.

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replies in the LETTER-BOX DEPARTMENT of HEALTH, to the following rules:—

1. All questions are answered free of charge in the columns of HEALTH. A limited space only, is available for the insertion of replies each week.
2. All letters must be legibly addressed to "The Editor of HEALTH, 2, Paternoster-square, London, E.C.," *and to no other address.*
3. Questions to which answers are desired by post, are so replied to solely at the Editor's discretion. If no answer is sent by post, the query will be replied to in the "Letter-Box" columns of HEALTH. A stamped addressed envelope must accompany all queries to which a private reply is desired.
4. Addresses of physicians and surgeons will, as heretofore, be forwarded FREE to Correspondents on their enclosing a stamped addressed envelope for reply.
5. Correspondents are requested to write on one side of the paper only, and to make their inquiries as brief as may be consistent with clearness.
6. From the necessity of sending HEALTH to press early in the week, no Correspondent can be replied to in the "Letter-Box" columns in the same week in which the inquiry is received. Replies crushed out of any issue will be found in the succeeding number.
7. No Post Cards must be used in sending queries. Violation of this rule deprives the sender of the privilege of a reply.

QUERIES AND ANSWERS.

REPLIES: GENERAL, SANITARY, AND MEDICAL.

[Readers of HEALTH will kindly note that when back numbers of the journal are desired, the letters containing such requests and stamps for the numbers should be addressed to the PUBLISHER of HEALTH, 2, Paternoster-square, London, E.C., and *not to the Editor.*]

C. X. C.—Try the plan of bathing the parts with hot water, and of taking twenty grains bromide of potash, in water, at bedtime.

BEDFORD.—Read the pamphlet, "A Lecture to Young Men" (post free, for 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.), and you will find full information regarding your case therein.

J. W. J. C.—Have your ears thoroughly examined and syringed by a medical man. Soften the wax over night with a little oil or glycerine, and have them syringed in the morning. If this treatment does not cure you, write again.

LORNA DOONE.—1. Wash the hair once a week with Vinolia Soap and use soft brushes only. 2. A little brilliantine only. 3. Use Vinolia as an ointment. 4. Press them out, then steam the face thoroughly, and use brisk friction with a hard towel.

R. E. A.—Take the bromide of potash as ordered to "C. X. C." above, at bedtime. The cold sitz bath might be tried as an experiment. If not bettered, write again.

W. B.—By all means try the treatment you name. It will do no harm if it does not cure you. What does good to one patient, however, may not cure another; but give it a trial at least. Glad to advise you further, if need be.

J. C. A.—New South Wales would be preferable, from a medical standpoint, to New Zealand; although the latter place would be by no means injurious to your ailment. Try the Burroughs Chloride of Ammonium Inhaler, &c., as advised to "H. Y. M." in HEALTH No. 329. This treatment may better your state very considerably.

TOO LATE.—You must have been standing too long, or have otherwise weakened your veins. Sit and rest with your feet slightly raised, and sleep with your feet on a pillow, so as to favour the return of the blood in the veins. You must also have your legs bandaged. Go to Messrs. Lindsey & Co., Bandage-Makers, Ludgate-hill, E.C., and let them instruct you in the application of a Martin's Bandage, to be worn regularly for a time. This should effect a cure. If not, write again.

OMEGA (Hereford).—[Another correspondent writing under this name is replied to in the present issue]. 1. No: it is not malted. 2. No; malt would not be advisable under the circumstances. You would be more likely to benefit by peptonizing milk with Fairchild's Powders than by taking cocoa. 3. Try change of air for your symptoms, and go to a bracing seaside resort on the East Coast—*e.g.*, Yarmouth or Cromer. Your depression will disappear under a thorough change.

R. M. T.—Apply Vinolia (Roberts & Co., 76, New Bond-street, London, W.) to the eruptions regularly, for a time, and wash with Vinolia Soap only. This will cure the skin trouble. You should certainly have your teeth looked to if they are decayed. Those decayed can be removed painlessly by aid of cocaine.

OMEGA.—1. You must certainly not occupy the cottage until it has been disinfected thoroughly by burning sulphur in each room with doors and windows closed; and thereafter re-paint and paper the rooms. If, however, we understand your letter aright, and you have already occupied and left the house, then nothing more can be done. You have certainly run a great risk if the cottage has not been thoroughly disinfected. Do not occupy it again until it has been thus rendered harmless. We should say, if no symptoms of fever have appeared in your family, you are practically safe; but fever germs have a wonderful vitality. Watch your children's health closely for a time at least. 2. Wash the children's heads with Vinolia Soap, and sponge them now and then with tepid water in which a little borax has been dissolved.

W. HARRISON.—Try the effect of wearing an Allcock's Porous Plaster for some time, placing it over the weak part of the back; and take internally fifteen drops of Fer Bravais in water, thrice daily after your meals. Write again, if not cured.

ATELES.—Try chrysophanic acid ointment, made by adding one drachm of the acid to one ounce of lard. Rub a piece the size of a pea into each patch of the psoriasis daily. The ointment will stain the clothes, so be careful on this latter head.

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B. Ham.—Try Kronenquelle Water as a beverage suitable for your case, and avoid much flesh-food for a time.

C. Black.—The Medical Battery Co., 52, Oxford-street, will supply you with a truss suitable for your case. You must, however, undergo a surgical examination first of all.

F. Elson.—The baths were ordered you to soothe your nervous irritability. In your special case they will suit you better than cold ones. Continue the baths, and gradually decrease them to a tepid degree.

Pandora.—Write to Messrs. Churchill, 11, New Burlington-street, London, W., for their catalogue of such books, and you will find in it probably a volume such as you indicate.

Iona.—Simply sponge the parts with cold water each morning, to which a little Hazeline has been added; and wear a suspensory bandage. You must also avoid constipation by the use of Cascara and a vegetable diet. See advice on this head given to "Fern" in last week's Health. [Another answer under the head of "Iona" is given below.]

Misery.—The book you send is untrustworthy, and is a quack production. No respectable medical man bargains with a patient beforehand for a sum of money as his fee. Besides, the fee you name is utterly exorbitant. Your wisest plan is that of consulting any good practitioner in your city. We can send you address of such if you forward a stamped addressed envelope; but your cure must be mental more than physical. You are only over-nervous over yourself; and our advice to you is to take a good holiday on the East Coast, to live plainly, and to keep your mind entirely off your supposed troubles. All you need is rest, change of air, lively society, and possibly a tonic, such as is recommended in the pamphlet you read.

Nemo.—Clearly a quack circular. Have nothing to do with such people. Read the pamphlet, "A Lecture to Young Men" (post free, for 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.).

Iona.—What you name is due to a cold in the head. Use Burroughs & Wellcome's Chloride of Ammonium Inhaler; and take a teaspoonful of Inman's Syrup of the Hypophosphites in a wineglass of water, thrice daily, after your meals.

Petite Santé.—In a person of the age you name the disease mentioned is much too serious for any purely home-treatment. Our advice to you is to call in another and a competent physician, if your present attendant is unable to afford the sufferer relief. No popular medical work can give you any adequate information regarding the serious malady you name. Take our advice, and call in the best physician in your city, and follow his advice.

Maud F.—What you name is probably largely due to some error in your dietary. Avoid cheese, salt foods, pastry, and like indigestibles; and after steaming your face over very hot water at night, apply Vinolia as an ointment (Roberts & Co., 76, New Bond-street, London, W., or any good druggist), and wash with Vinolia Soap. If not cured, send a stamped addressed envelope, and we will advise you further.

Queensland.—We do not think you could be treated as you think or desire at Stockholm; and you could only ascertain this by visiting that city, which is reached from Hull or Leith easily enough. We still think that you are simply suffering from nervous feeling, and that you do not labour under any actual disease. Why not take a bracing holiday, if you can, say at Dunbar, on the East Coast. This will set you up far more effectually than tampering with drugs or gymnastic exercises. See advice given to "W. Harrison" above, as regards the back-symptoms.

G. Bischoff.—Take plenty of fresh air and out-door exercise, and try fifteen drops Fer Bravais, taken in water, twice daily, after your food.

Noah.—Give Pulvermacher's Belt a fair trial. It is a genuine appliance, and calculated to cure your trouble.

Solferino.—We recommend you simply to take a dessertspoonful of Scott's Pure Cod Oil Emulsion with Hypophosphites after your meals. This is both a tonic and nutritive measure, likely to benefit you in the direction you name.

Canty Bay.—Use for your hair the following lotion:—Carbolic acid, half a drachm; tincture of nux vomica, two drachms; tincture of cantharides, B.P., two drachms; tincture of cinchona, one ounce; eau de Cologne and cocoa-nut oil, of each, a sufficiency to make up four ounces. Mix. To be well rubbed into the roots of the hair with a soft sponge once or twice a day.

A. Power.—Read the pamphlet, "A Lecture to Young Men" (post free, for 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.), and study what is therein said about cases like yours.

C. E. E.—Apply to the face a little pure Lanoline, to which your chemist should add Powdered Calamine (Ver), in the proportion of one drachm to one ounce of Lanoline, thus making a thin paste, easy of application at night.

Interested.—In Marsh's test for arsenic there is employed the apparatus for producing hydrogen gas by the action of sulphuric acid on zinc. The paper or other object to be tested is placed in this vessel, and the hydrogen given off is burnt, a clean porcelain plate being used to receive the flame. If arsenic is present, it is deposited on the porcelain.

E. F. F.—Take the following mixture for a week or so at a time, and then allow an interval of a week before resuming. This treatment to be carried out for some months, at least:—Iodide of potass, two drachms; infusion of calumba, six ounces. A dessertspoonful to be taken thrice daily. The mouth may be gargled with chlorate of potash (or a chlorate of potash lozenge be allowed to dissolve in the mouth) when symptoms appear there.

A. Bayley.—Try the effect of taking a pill composed of two grains sulphate of quinine an hour before dinner daily. Apply Tidman's Sea Salt, heated, dry, in a flannel bag or stocking, to the shoulders when the pain is severe, and bathe the parts each morning in a strong solution of salt and tepid water.

M.—To cure a case of small worms, look to your food; avoid all uncooked vegetables and fruits; exercise the utmost cleanliness of person, and use an injection of infusion of quassia, or one made by adding half an ounce tincture of the perchloride of iron to a pint of water.

G. S.—To unite iron with cod oil, the following is a method:—Syrup of the iodide of iron, three drachms; mucilage of acacia, one ounce; cod liver oil to make up six ounces. Mix. A dessertspoonful may be given after food, twice or thrice daily.

C. A.—Take the following mixture:—Chloride of ammonium, two drachms; spirits of chloroform, one drachm; simple syrup, three drachms; water, to make up six ounces. A tablespoonful to be taken in water every four hours.

Alloa.—Infection in the case of typhoid comes from the bowel discharges. Typhoid fever is not "infectious" in the ordinary sense of the term. No risk is incurred by nurses in the case of this fever, so long as the discharges are duly disinfected.

Ethel.—Superfluous hairs can only be satisfactorily (and painlessly) removed by electricity. Send 4½d. in stamps to the Publisher of Health, and obtain a copy of No. 149 of this journal, and read the article therein given on this method of removing hairs. We can send you address of a London specialist on receipt of stamped addressed envelope.

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